

RECENT PAPERS BEARING ON METEOROLOGY.

H. H. KIMBALL, Librarian.

The subjoined titles have been selected from the contents of the periodicals and serials recently received in the Library of the Weather Bureau. The titles selected are of papers or other communications bearing on meteorology or cognate branches of science. This is not a complete index of the meteorological contents of all the journals from which it has been compiled; it shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau. Unsigned articles are indicated by a —

American philosophical society. Philadelphia. v. 36. Jan.-Mch., 1907

Barus, C. On distributions of nuclei in dust-free wet air, and on methods of observation. p. 70-79.

Imperial earthquake investigation committee. Bulletin. Tokyo. v. 1. no. 3.

Imamura, A. Note on the direction and magnitude of the vibrations in the different phases of the earthquake motion. p. 125-132.

Omori, F. Earthquake zones in central Japan. p. 133-137.

Omori, F. Recent strong earthquakes in the Shinano-gawa valley. p. 138-140.

Omori, F. Note on the eruptions of the Unsendaké in the 4th year of Kansei (1792). p. 142-144.

Omori, F. Seismograms showing no preliminary tremor. p. 145-154.

Omori, F. Vibrations of a railway bridge pier. p. 155-157.

Imamura, A. On a method of suppressing the air tremors occurring in the Milne H. P. seismograms. p. 158-160.

Physical review. Lancaster, Pa. v. 25. Aug., 1907.

Burbank, J. E. Temperature control of the Cheltenham magnetic observatory, U. S. Coast and Geodetic Survey. p. 115-122.

Royal meteorological society. Quarterly journal. London. v. 33. July, 1907.

Baden-Powell, B. F. S. The exploration of the air. p. 193-199. — Rain-making experiments in the Klondike. p. 199-200.

Holmes, R. L. Phenomenal rainfall in Suva, Fiji, August 8, 1906. p. 201-205.

Holmes, R. L. Rainfall at Delanasau, Bua, Fiji, 1906. p. 205-206.

Strachan, Richard. Temperature around the British islands in relation to the Gulf Stream. p. 207-211.

Bonacina, L. C. W. Weather regarded as a function of climate. p. 213-219.

— Ice and its movements in Baffin Bay. p. 251. [Repr. from Geogr. journal.]

— Climate of Egypt. p. 257-260. [A good, succinct account of Egyptian climate. Repr. from Egypt. Survey department. Meteorological report for the year 1904.]

— Hoar frost at high altitudes. p. 261. [Repr. from Geogr. journal.]

Scientific American. New York. v. 97.

Fergusson, S. P. The international kite ascensions. (Aug. 10, 1907.) p. 97-98.

Brownell, Baker. A homemade air thermometer. (Aug. 17, 1907.) p. 118.

Scientific American supplement. New York. v. 64.

Morrison, J. H. St. Swithin's day. (Aug. 10, 1907.) p. 95.

— Balloons and lightning. Danger for the aeronaut up in the storm clouds. (Aug. 17, 1907.) p. 103. [Repr. from New York Sun.]

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— Alexander Buchan. p. 103-106.

Tokyo mathematico-physical society. Proceedings. Tokyo, 2d ser. v. 4.

Nakamura, S. On the selches in lakes Yamanaka, Kawaguchi, and Hamana. (No. 4. May, 1907.) p. 73-79.

Omori, F. On earthquake zones in central Japan and in the Shinano-gawa valley. (No. 6. July, 1907.) p. 126-131.

Aérophile (L'). Paris. 15 année. Juil. 1907.

Philos. Un nouveau statoscope; suspension nouvelle pour instruments de bord. p. 182-183.

Levée, Ch. Curieux phénomènes électriques vus en ballon. p. 203-204.

Ciel et terre. Bruxelles. 27 année. 1 août 1907.

Dobrowolski, A. Les cristaux de glace aériens et le phénomène des halos. p. 257-267.

L., V. D. L'inclémence de l'été actuel. [Note.] p. 277-278.

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Teisserenc de Bort, Léon. Sur la distribution de la température dans l'atmosphère sous le cercle polaire et a Trappes. p. 149-152.

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Fournier, E. La sécheresse dans le Jura en 1906. p. 119-122.

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Shedd, J. C. L'évolution du cristal de neige. p. 145-150.

— Mirage dans l'Atlantique. p. 150-151.

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Marsan, Francois. Météorologie ancienne du midi Pyrénéen. Nouvelle série (1243-1871). p. 194-207.

Marchand, E. Observations météorologiques du Pic-du-Midi et de Bagnères-Bigorre. p. 239-246.

Annalen der Physik. Leipzig. 4 Folge. Bd. 23. 1907.

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Przibram, K. Ueber die Kondensation von Dämpfen in ionisierter Luft. (Jän. 1906.) p. 33-38.

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Börnstein, Richard. Die halbtägigen Schwankungen der Temperatur und des Luftdruckes. (Juni 1906.) p. 881-904.

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Conrad, Viktor. Messungen des Ionengehaltes der Luft auf dem Sântis im Sommer 1905. Beiträge zur Kenntnis der atmosphärischen Elektrizität. XXIV. (Juli 1906.) p. 1055-1079.

Exner, Felix M. Grundzüge einer Theorie der synoptischen Luftdruckveränderungen. (Juli 1906.) p. 1171-1246.

Schweidler, E. v. Lufterlektrische Beobachtungen am Ossiachersee im Sommer 1906. Beiträge zur Kenntnis der atmosphärischen Elektrizität. XXV. (Okt. 1906.) p. 1263-1284.

Weiss, E. Beobachtungen über Niederschlagslektrizität. Beiträge zur Kenntnis der atmosphärischen Elektrizität. XXVI. (Okt. 1906.) p. 1285-1320.

Kohlrausch, K. W. Fritz. Ueber Radiuminduktion in der atmosphärischen Luft und eine Methode zur absoluten Messung derselben. Beiträge zur Kenntnis der atmosphärischen Elektrizität. XXVII. (Okt. 1906.) p. 1321-1326.

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Maurer, J. Ueber die Strahlung einer freien Schneefläche in absolutem Masse und die Schneefälle im Winter 1906-7 in der Schweiz. p. 295-300.

Kassner, O. Gewitterschirm und Sonnenringe. p. 301-306.

Bemporad, A. Versuch einer neuen empirischen Formel zur Darstellung der Änderung der Intensität der Sonnenstrahlung mit der Zenitdistanz. p. 306-313.

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Costanzo, G. and Negro, C. Ueber die Radioaktivität des Regens. p. 317. [Abstract.]

Ruch, Otto. Zerrbilder der Ostalpen im Feldbergpanorama. p. 318-319.

Trabert, W. Zur Messung der Tropfengrösse bei Regenfällen. p. 320.

Schmidt, Wilh. Ueber Luftdruckschwankungen bei Blitzen. p. 320-323.

Köppen, W. Verhältnisse von Frost, Schneedecke und Luftdruck in Norddeutschland im Winter 1906-7. p. 323-325.

Ekholm, Nils. Die Wetterregeln des Herrn H. Guilbert. p. 326-328.

— Regenfall zu Beira. p. 328. [Collected data 1902-5.]

— Regenfall in Palästina. p. 331-332.

— Resultate der meteorologischen Beobachtungen zu Loanda an der tropischen Westküste Afrikas. p. 333-335. [Observations for 1890-91.]

— Ein japanisches Papier als Hülle für das nasse Thermometer. p. 335.

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— Einfluss der Sonne aus Wetter. p. 161-162.

Weltall (Das). Berlin. 7 Jahrgang. 1907 Juni 15.

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- Lindemann, —. Temperaturkalender von Chemnitz (1886-1905). Juni 1907. p. 139-141. [Includes daily normals.]
- Gerstmann, Heinrich. Zur Frage einer Wetterscheide in den Alpen. (Juli 1907.) p. 145-150.
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- Everdingen, D. van. Blikseminslag bij boomen. (Juni 1907.) p. 17-22.
- Smits, P. J. Weerkundige waarnemingen te Batavia 1866-1905. (Juni, Juli 1907.) p. 22-26, 33-39.
- Hiesink, C. W. De invloed der maan op den neerslag. (Juli 1907.) p. 39-42.
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- Mendola, L. and Eredia, F. Secondo riassunto delle osservazioni meteorologiche eseguite all'Osservatorio su l'Etna dal 1892 al 1906. p. 34-40.
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- Palazzo, Luigi. I brontidi del bacino bolsenese. p. 738-745.

THE WEATHER OF THE MONTH.

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PRESSURE.

The distribution of mean atmospheric pressure for July, 1907, over the United States and Canada is graphically shown on Chart VI, and the average values and departures from the normal are shown for each station in Tables I and V.

The general distribution of the mean atmospheric pressure for July showed no marked variation from the normal mid-summer type. The relative positions of the more or less permanent areas of high and low pressure, common to the period of the year, were maintained, except that there was a general diminution of pressure over all eastern districts, quite pronounced over New England and the eastern provinces of Canada. Slight excesses of pressure were maintained over the northern Rocky Mountain district, the middle Plateau, the central Pacific coast, and along the Gulf coast.

Over the remaining districts of the United States and Canada pressure averaged below normal, with the greatest deficiency from the Lake region and Middle Atlantic States northeastward over New England and eastern Canada, where the departures from normal ranged from $-.05$ to $-.15$ inch.

Low pressure was maintained over the southwest as usual, and the high pressure area over the north Pacific district did not depart materially from the normal, except that it penetrated farther into the northern Plateau and Rocky Mountain districts.

The normal marked rise in pressure over all interior districts from June to July was more pronounced during this year than usual, especially over the Rocky Mountain and Great Plains districts where the increase in pressure during July over the preceding month averaged nearly 0.10 inch. Over both the Atlantic and Pacific coast districts the pressure diminished decidedly from that of June.

The decrease of pressure over the eastern districts with somewhat higher pressure over the northern Rocky Mountain States modified materially the prevailing direction of the surface winds over the districts east of the Rocky Mountains; and instead of normal southerly winds, common to the season, the trend of the winds was decidedly from the west, and in the more northerly districts northwesterly winds prevailed. West of the Rocky Mountains the usual westerly winds prevailed.

TEMPERATURE.

During most of July normal summer temperatures prevailed. No protracted periods of either high or low temperatures occurred, and the monthly mean temperatures showed no marked variation from the average.

Over the South Atlantic and Gulf States, the lower Mississippi Valley, Kansas, and eastern Colorado, along the coast of California, over the whole of Oregon and Washington, and the southern part of New England, the average temperature for the month exceeded the normal by amounts generally less than 2° . From the Lake region westward to and including the Rocky Mountain and Plateau districts, the mean temperature for the month averaged below the normal from 1° to 3° .

The abnormally warm weather over western Texas noted during the last two days of June continued into July, and during the first week of the latter month unusually warm

weather prevailed over nearly all portions of the region from Texas westward to and including southern California. The maximum temperatures during this period were generally the highest recorded during the month, and at several points in Arizona and southern California they were as high as or higher than recorded in any previous July. Over the more northern districts, especially the Lake region, Middle Atlantic States, and New England, the first week of the month was decidedly cool, and the minimum temperatures on the 3d and 4th were generally the lowest for the month, and at some points as low as or lower than ever before recorded in July. In exposed places over the northern portions of the above-mentioned districts the temperatures closely approached the freezing point, and light frosts were reported from several localities.

The most prolonged and generally warmest period of the month prevailed from the 15th to the 25th over the interior districts between the Appalachian and Rocky mountains. During this period the temperatures were generally above the normal, with maximum temperatures on the 23d and 24th of 100° or higher over Texas, Oklahoma, Kansas, Missouri, and surrounding districts.

Over the North Pacific States unusually warm weather prevailed during the closing days of the month, with maximum temperatures on the 30th and 31st generally above 100° over nearly all portions of Oregon and Washington.

Maximum temperatures of 90° or higher were recorded over nearly all districts, except the Lake region, the coast of New England, the higher elevations of the Appalachians, over the mountain regions of the west, and along the immediate Pacific coast. Maximum temperatures from 110° to 120° or higher were recorded over southwestern Arizona and southeastern California.

Temperatures below freezing occurred in the mountain districts of Colorado, Wyoming, Idaho, and Montana, and over the high districts of the Sierras in California.

PRECIPITATION.

The distribution of precipitation during July, 1907, is graphically shown on Chart IV by appropriate shading or by figures representing the actual amount of fall.

The rather frequent changes in pressure and the frequent intermingling of warm southerly winds with cooler winds from northerly points were favorable to the development of the usual summer type of local storms, which were especially frequent over the northern half of the country east of the Rocky Mountains and in Arizona and New Mexico. At numerous points in the above districts severe wind, rain, and hailstorms, the details of which appear in other portions of this volume, were destructive of human life and seriously damaged buildings, crops, etc.

The local character of the precipitation is well illustrated on Chart IV, where areas of excessive and deficient amounts appear in close proximity and with unusual frequency.

While small areas appear with decidedly deficient rainfall, the distribution during the several periods of the month was generally favorable to the rapid growth and development of